

AMENDMENTS TO THE DRAWINGS:

Replace the drawing with the accompanying new drawing.

REMARKS

A new drawing showing reference numerals 10 and 14 correctly indicating their respective parts, is submitted herewith, in lieu of the original.

Reconsideration is respectfully requested for the objection to the drawings. It is believed that Figure 1 shows everything claimed.

Specifically, please remember that there are three springs: a strongest spring 4, a weakest spring 11, and a spring 5 of intermediate strength. When the device is triggered, spring 4 drives everything forward against the collapsing resistance of weak spring 11, until spring 11 is fully compressed and the needle 3 is inserted into the flesh of the patient.

But strong spring 4 has not finished its work: once the assembly 9, 10, 12 has been stopped by collapsed spring 11, then strong spring 4 acts against weaker spring 5 to force 6-8 to slide into collar 9 and eject the dose through the extended needle. Of course, spring 5 never loses its strength and so spring 11 remains fully compressed throughout the step of injecting the liquid.

This is the sequential operation: first the insertion of the needle and then the injection of the liquid through the extended needle, that is produced entirely by the relative strength of the springs. As the strength of the springs is fully

described in our specification and cannot meaningfully be shown in the drawings, we have shown everything possible in our drawing to satisfy the requirement of disclosure of sequential operation.

Similarly, collar 9 is slidable on stem 8, as expressly pointed out on page 3, line 13 of our specification; and so the requirement for illustration of a slidable collar is fully met.

The second spring 5 serving to retain the syringe seated at its forward position, takes place because spring 11 is weaker than spring 5, as pointed out in the last two lines of page 3 of our specification.

Actually, the undersigned cannot think of any clearer way to illustrate this, than has been done in our Figure 1, which is accordingly believed to be completely adequate as it stands.

As to the rejections under 35 USC 112, the amendments to claim 1 are believed to have taken care of these without the need for further explanation.

Reconsideration is respectfully requested, for the rejection of the claims as anticipated by BERGENS et al. The Official Action refers to the arrangement of Figures 1A to 1D which show a form of mechanism for coupling and uncoupling a drive plunger or "injection head" 142 from the syringe plunger 126. The relevant elements of the device are a drive spring 140 which, upon release of a trigger drive a drive plunger with a wine glass-shaped head forward. The drive plunger transmits motion to a syringe 120 via a penetration head assembly 150. The

main features seem to be a forward drive surface 152 which transmits forward movement to the syringe 120, and a further component at the rear end of the assembly which is biased rearwardly by a spring 156.

In operation, on release of the drive spring 140, the plunger moves forwardly and the penetration head assembly moves forward as one to contact the syringe wall and to move the syringe forwardly to expose it and to penetrate the flesh. However, once the syringe reaches its forward limit position, the main spring 141 overcomes the bias spring 156 so that the two main parts of the penetration head assembly contract, thereby exposing a ramp portion which cams the arms of the wine glass-shaped assembly together so that the plunger can slide forward to contact the syringe plunger and then expel the dose. Continued forward movement of the shaped plunger moves it to a position where the arms can spring out again, thus allowing the syringe to be withdrawn into the housing.

The main distinction is that, in the arrangement of the present invention, both springs (4) and (5) act on the syringe plunger whereas in the arrangement of U.S. '479 the spring 156, which the Examiner equates to our second spring, never acts on the syringe plunger. In other words, a distinctive feature of the inventive arrangement is that, when the plunger (8) is in contact with the piston (14), the plunger (8) is acted on in opposite senses by the first spring (4) and the second spring

(5). In U.S. '479 the so-called second spring 156 does act on the drive plunger (142) at the same time as the drive spring 141, but before the drive plunger contacts with the syringe plunger (126), the spring 156, ceases acting on either plunger.

As these distinctions are clearly made in amended claim 1, it is believed that claim 1 is allowable, and with it the claims that depend therefrom.

In view of the present amendment and the foregoing Remarks, therefore, it is believed that this application has been placed in condition for allowance, and reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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APPENDIX:

The Appendix includes the following item(s):

- ☐ - a terminal disclaimer
- ☐ - a 37 CFR 1.132 Declaration
- ☐ - a new or amended Abstract of the Disclosure
- ☒ - a Replacement Sheet for Figure 1 of the drawings
- ☐ - a Substitute Specification and a marked-up copy of the originally-filed specification
- ☐ - a verified English translation of foreign priority document